



First Amendment: Marked-up Claims

1. A vehicle-mounted device for capturing video imagery in response to a triggering

2 event, comprising:

4 a housing ;

6 an image sensor mounted to said housing, said image sensor sensing optical
8 phenomena representing said video imagery;

10 a data sensor circuit within said housing and in part responsive to said triggering
12 event; and

14 a capture circuit within said housing; **said capture circuit comprising:**

16 **a non-volatile memory; and**

18 **a volatile, random-access memory configured as a continuous-loop**

20 **buffer; said volatile memory coupled to said non-volatile memory and**

22 **coupled to said image sensor; said volatile memory** capturing a signal

24 **representing said video imagery from said image sensor in a first-in, first-**

26 **overwritten manner, and, responsive to said data sensor circuit sensing a**

28 **triggering event, terminating capture of said signal [in response to said data**

30 **sensor circuit sensing said triggering event] and copying the captured signal**

32 **representing video imagery to said non-volatile memory.**

RECEIVED
OCT 19 2001
GROUP 3600

2. The vehicle-mounted device claimed in claim 1, wherein said capture circuit

4 terminates capture of said signal a predetermined time interval after occurrence of said
2 triggering event.

3. The vehicle-mounted device claimed in claim 1, wherein said capture circuit

4 comprises a digital recording circuit having a digital memory and records said signal
2 representing said video imagery.

5. The vehicle-mounted device claimed in claim 3, wherein said capture circuit further

2 records a signal representing data produced by said data sensor circuit.

5. The vehicle-mounted device claimed in claim 1, wherein said capture circuit
2 comprises a transmitter transmitting a signal representing said video imagery to a remote
location.

4

6. The vehicle-mounted device claimed in claim 5, wherein said transmitter transmits
2 said signal in real-time.

7. The vehicle-mounted device claimed in claim 1, wherein said data sensor circuit
2 comprises a sensor responsive to a change in force experienced by said device.

8. The vehicle-mounted device claimed in claim 7, wherein said data sensor circuit
2 comprises a forward sensor responsive to a change in force experienced by said device in
a direction substantially perpendicular to a direction of elongation of said housing and a
4 lateral sensor responsive to a change in force experienced by said device in a direction
substantially parallel to said direction of elongation of said housing.

9. The vehicle-mounted device claimed in claim 1, wherein said image sensor is
2 disposed behind said mirror and senses said optical phenomena transmitted through a
portion of said mirror.

4

10. The vehicle-mounted device claimed in claim 9, wherein said portion of said
2 mirror is half-silvered and partially transmits and partially reflects said optical
phenomena to provide said mirror with a uniformly mirrored appearance.

4

11. The vehicle-mounted device claimed in claim 9, wherein said portion of said mirror
2 is transparent.

12. The vehicle-mounted device claimed in claim 1, wherein said image sensor is
2 oriented to sense optical phenomena impinging upon it from a direction substantially
perpendicular to a direction of elongation of said housing.

4



13. The vehicle-mounted device claimed in claim 12, wherein said image sensor
2 comprises first and second portions, said first portion oriented to sense optical
phenomena impinging upon it from a direction substantially perpendicular to a direction
4 of elongation of said housing, said second portion oriented to sense optical phenomena
impinging upon it from a direction substantially perpendicular to a direction of elongation
6 of said housing and axially opposite said direction from which said optical phenomena
impinges upon said first portion.

8

14. The vehicle-mounted device claimed in claim 13, wherein said first portion of said
2 image sensor is disposed behind said mirror and senses said optical phenomena
transmitted through a portion of said mirror.

4

15. The vehicle-mounted device claimed in claim 1, wherein:
2 said data sensor circuit further comprises a global positioning system (GPS)
receiver identifying a geographic position of said vehicle-mounted device; and
4 said capture circuit further records a signal representing said geographic position.

16. The vehicle-mounted device claimed in claim 1, wherein:
2 said data sensor circuit further comprises a microphone; and
4 said capture circuit further records a signal representing said sound impinging
upon said microphone.

17. A vehicle-mounted device for capturing video imagery in response to a triggering
2 event, comprising:
4 a housing having a generally elongated shape;
6 a rear-view mirror mounted to said housing and having a generally elongated
shape;
8 an image sensor mounted to said housing, said image sensor sensing optical
phenomena representing said video imagery;
a data sensor circuit within said housing and in part responsive to said triggering
event; and



10 a capture circuit within said housing; said capture circuit comprising:
11 a non-volatile memory; and
12 a volatile, random-access memory configured as a continuous-loop buffer;
13 said volatile memory coupled to said non-volatile memory and coupled to said image
14 sensor; said volatile memory capturing a signal representing said video imagery from
15 said image sensor in a first-in, first-overwritten manner, and, responsive to said data
16 sensor circuit sensing a triggering event, terminating capture of said signal [in response
17 to said data sensor circuit sensing said triggering event] and copying the captured
18 signal representing video imagery to said non-volatile memory.

18. The vehicle-mounted device claimed in claim 17, wherein said capture circuit
2 terminates capture of said signal a predetermined time interval after occurrence of said
triggering event.

4
19. The vehicle-mounted device claimed in claim 17, wherein said capture circuit
2 comprises a digital recording circuit having a digital memory and records said signal
representing said video imagery.

4
20. The vehicle-mounted device claimed in claim 19, wherein said capture circuit
2 further records a signal representing data produced by said data sensor circuit.

21. The vehicle-mounted device claimed in claim 17, wherein said capture circuit
2 comprises a transmitter transmitting a signal representing said video imagery to a remote
location.

4
22. The vehicle-mounted device claimed in claim 21, wherein said transmitter
2 transmits said signal in real-time.

23. The vehicle-mounted device claimed in claim 17, wherein said data sensor circuit
2 comprises a sensor responsive to a change in force experienced by said device.



24. The vehicle-mounted device claimed in claim 23, wherein said data sensor circuit
2 comprises a forward sensor responsive to a change in force experienced by said device in
a direction substantially perpendicular to a direction of elongation of said housing and a
4 lateral sensor responsive to a change in force experienced by said device in a direction
substantially parallel to said direction of elongation of said housing.

6

25. The vehicle-mounted device claimed in claim 17, wherein said image sensor is
2 disposed behind said mirror and senses said optical phenomena transmitted through a
portion of said mirror.

4

26. The vehicle-mounted device claimed in claim 25, wherein said portion of said
2 mirror is half-silvered and partially transmits and partially reflects said optical
phenomena to provide said mirror with a uniformly mirrored appearance.

4

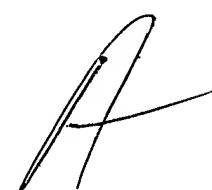
27. The vehicle-mounted device claimed in claim 25, wherein said portion of said
2 mirror is transparent.

28. The vehicle-mounted device claimed in claim 17, wherein said image sensor is
2 oriented to sense optical phenomena impinging upon it from a direction substantially
perpendicular to a direction of elongation of said housing.

4

29. The vehicle-mounted device claimed in claim 18, wherein said image sensor
2 comprises first and second portions, said first portion oriented to sense optical
phenomena impinging upon it from a direction substantially perpendicular to a direction
4 of elongation of said housing, said second portion oriented to sense optical phenomena
impinging upon it from a direction substantially perpendicular to a direction of elongation
6 of said housing and axially opposite said direction from which said optical phenomena
[impinges] impinge upon said first portion.

8



30. The vehicle-mounted device claimed in claim 29, wherein said first portion of said
2 image sensor is disposed behind said mirror and senses said optical phenomena
transmitted through a portion of said mirror.

4

31. The vehicle-mounted device claimed in claim 17, wherein:
2 said data sensor circuit further comprises a global positioning system (GPS)
receiver identifying a geographic position of said vehicle-mounted device; and
4 said capture circuit further records a signal representing said geographic position.

4

32. The vehicle-mounted device claimed in claim 17, wherein:
2 said data sensor circuit further comprises a microphone; and
4 said capture circuit further records a signal representing said sound impinging
upon said microphone.

33. A method for capturing video imagery in a vehicle-mounted system in response to a
2 triggering event, said system comprising a rear-view mirror device mounted upon a
windshield of a vehicle, said rear-view mirror device having a housing with a generally
4 elongated shape, a mirror assembly mounted to said housing and having a generally
elongated shape, [a] an image sensor mounted to said housing and sensing optical
6 phenomena representing said video imagery, a data sensor circuit within said housing,
and a capture circuit within said housing; said capture circuit comprising: a non-
8 volatile memory; and a volatile, random-access memory configured as a continuous-
loop buffer; said volatile memory coupled to said non-volatile memory, the method
10 comprising the steps of:

12 said image sensor sensing optical phenomena transmitted through a portion of
said mirror assembly and representing said video imagery; and
14 said capture circuit capturing said video imagery in said volatile, random-access
memory in a first-in, first-overwritten manner, and, responsive to said data sensor
circuit sensing a triggering event, terminating capture of said signal representing said
16 video imagery [in response to said data sensor circuit sensing said triggering event] and

copying the captured signal representing video imagery to said non-volatile

18 memory.

34. The method claimed in claim 33, further comprising the step of transmitting a
2 signal representing said video imagery to a remote location.

4

35. The method claimed in claim 33, wherein said step of terminating capture of said
2 signal representing said video imagery comprises terminating capture of said signal in
response to a change in force experienced by said device.

4

36. A method for capturing video imagery in a vehicle-mounted system in response to a
2 triggering event, said system comprising a rear-view mirror device mounted upon a
windshield of a vehicle, said rear-view mirror device having a housing with a generally
4 elongated shape, a mirror assembly mounted to said housing and having a generally
elongated shape, [a] an image sensor mounted to said housing and sensing optical
6 phenomena representing said video imagery, a data sensor circuit within said housing,
and a capture circuit within said housing; said capture circuit comprising: a non-
8 volatile memory; and a volatile, random-access memory configured as a continuous-
loop buffer; said volatile memory coupled to said non-volatile memory, the method
10 comprising the steps of:

 said image sensor sensing optical phenomena representing said video imagery
12 impinging upon it from a direction substantially perpendicular to a direction of elongation
of said housing and forwardly through said windshield of said vehicle and video imagery
14 impinging upon it from a direction substantially perpendicular to a direction of elongation
of said housing and rearwardly with respect to said vehicle; and
16 said capture circuit capturing said video imagery in said volatile, random-access
memory in a first-in, first-overwritten manner, and, responsive to said data sensor
18 circuit sensing a triggering event, terminating capture of said signal representing said
video imagery [in response to said data sensor circuit sensing said triggering event] and



20 copying the captured signal representing video imagery to said non-volatile
memory.

22

37. The method claimed in claim 36, further comprising the step of transmitting a
2 signal representing said video imagery to a remote location.

38. The method claimed in claim 36, wherein said step of terminating capture of said
2 signal representing said video imagery comprises terminating capture of said signal in
response to a change in force experienced by said device.

39. A method for mounting a system for capturing video imagery in response to a
2 triggering event, comprising the step of mounting upon a vehicle windshield a device
comprising a housing, an image sensor mounted to said housing and sensing optical
4 phenomena representing said video imagery, a data sensor circuit within said housing
responsive to said triggering event, and a capture circuit within said ; said capture
6 circuit comprising: a non-volatile memory; and a volatile, random-access memory
configured as a continuous-loop buffer; said volatile memory coupled to said non-
8 volatile memory and coupled to said image sensor; said volatile memory capturing a
signal representing said video imagery from said image sensor in a first-in, first-
10 overwritten manner, and, responsive to said data sensor circuit sensing a triggering
event, terminating capture of said signal [in response to said data sensor circuit sensing
12 said triggering event] and copying the captured signal representing video imagery to
said non-volatile memory.

14

40. The method claimed in claim 39, wherein said housing has a generally elongated
2 shape, said device further comprises a suction-cup attached to said housing and a mirror
having a generally elongated shape mounted to said housing, and said mounting step
4 comprises the step of adhering said device to said windshield.

41. The method claimed in claim 39, wherein[, and] said mounting step comprises the
2 step of engaging said suction-cup upon said windshield.